



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: **16.10.2002 Bulletin 2002/42** (51) Int Cl.7: **H04Q 7/30, H04L 12/44**
 (43) Date of publication A2: **12.09.2001 Bulletin 2001/37**
 (21) Application number: **01301714.0**
 (22) Date of filing: **26.02.2001**

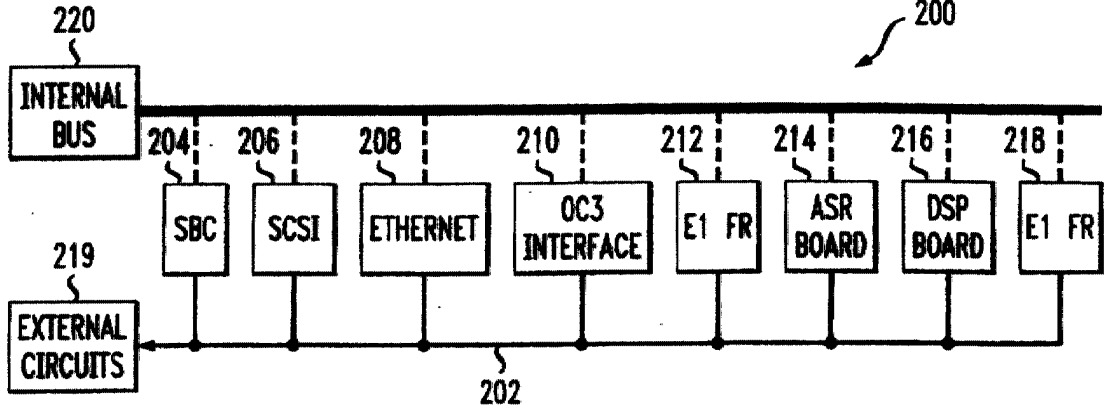
<p>(84) Designated Contracting States: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR Designated Extension States: AL LT LV MK RO SI</p> <p>(30) Priority: 08.03.2000 US 520385</p> <p>(71) Applicant: LUCENT TECHNOLOGIES INC. Murray Hill, New Jersey 07974-0636 (US)</p>	<p>(72) Inventors: <ul style="list-style-type: none"> • Chakrabarti, Satyabrata Aurora, Illinois 60504 (US) • Mishra, Amitabh Oak Brook, Illinois 60523 (US) </p> <p>(74) Representative: Watts, Christopher Malcolm Kelway, Dr. et al Lucent Technologies (UK) Ltd, 5 Mornington Road Woodford Green Essex, IG8 0TU (GB)</p>
---	--

(54) **Hardware configuration, support node and method for implementing general packet radio services over GSM**

(57) A hardware configuration, a general packet radio services support node (GSN) and method for implementing general packet radio services over a global system for mobile communications network is provided. The hardware configuration comprises a plurality of electronic boards which provide the GPRS functionality. An internal bus, preferably CPCI, provides intra-config-

uration communications while a ATM bus provides communications to an external circuit. The GSN comprises a single board computer for providing general packet radio services functionality which is required for each call being serviced and a line card processor for providing general packet radio services functionality which is required for each packet being serviced. The GSN may function as a SGSN, GGSN or both.

FIG. 2



EP 1 133 205 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 30 1714

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
1 Y	US 5 438 565 A (ROMY NEIL J ET AL) 1 August 1995 (1995-08-01) * column 3, line 31 - column 4, line 30 * * column 5, line 10 - column 6, line 37 * * column 7, line 41 - column 8, line 19 * * figures 1,2,4-6 * ---	1-10	H04Q7/30 H04L12/44
1 Y	WO 99 33319 A (ERICSSON TELEFON AB L M) 1 July 1999 (1999-07-01) * page 3, line 1 - page 4, line 17 * * page 6, line 11 - page 8, line 15 * * page 12, line 5 - page 13, line 6 * * page 14, line 26 - page 16, line 8 * * figures 1,3-8 * ---	1-10	
1 A	WO 99 57918 A (GATEWAY TECHNOLOGY) 11 November 1999 (1999-11-11) * page 4, line 15 - page 6, line 18 * * page 10, line 1 - page 18, line 28 * * figures 1-4 * ---	1-10	
1 A	WO 99 17524 A (PULSEPOINT COMMUNICATIONS ;CASTAGNA WILLIAM D (US)) 8 April 1999 (1999-04-08) * page 2, line 35 - page 8, line 37; figure 1 * -----	1-10	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04L H04Q
-The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 28 August 2002	Examiner Lastoria, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P/AC01)



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-10



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-10

Claim 1 claims a hardware configuration for implementing general packet radio services (GPRS) over a global system for mobile communication (GSM) network comprising a plurality of electronic boards, an internal and an external bus.

Dependent claims 2 to 10 further explain the structure of the buses and specify the functionality of the boards.

2. Claims: 11-37

Claims 11 and 29 claim respectively a GPRS support node and a method wherein a single board computer (SBC) provides GPRS functionality required for each call being serviced and a line card processor (LCP) provides GPRS functionality required for each packet being serviced.

Dependent claims 12-28 and 30-37 further specify whether the GSN is used as Service GSN (SGSN) or Gateway GSN (GGSN) and the tasks of the SBC and the LCP.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 30 1714

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-08-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5438565	A	01-08-1995	NONE	

WO 9933319	A	01-07-1999	AU 1989599 A	12-07-1999
			CA 2314891 A1	01-07-1999
			EP 1040720 A1	04-10-2000
			JP 2001527368 T	25-12-2001
			WO 9933319 A1	01-07-1999

WO 9957918	A	11-11-1999	US 6381321 B1	30-04-2002
			AU 3673599 A	23-11-1999
			WO 9957918 A1	11-11-1999
			US 2002106068 A1	08-08-2002

WO 9917524	A	08-04-1999	AU 9593498 A	23-04-1999
			AU 9781398 A	23-04-1999
			CA 2305322 A1	08-04-1999
			CA 2305387 A1	08-04-1999
			EP 1020065 A1	19-07-2000
			EP 1020066 A1	19-07-2000
			JP 2001518757 T	16-10-2001
			WO 9917524 A1	08-04-1999
			WO 9917525 A1	08-04-1999
			US 6266400 B1	24-07-2001
